Claims

1. A blast mitigation device (1) comprising one or more inflatable, rigidisable, free-standing arched frames comprised of one or more compartments (4, 4a), the or each compartment being fillable, in use, with a gaseous medium under pressure, and one or more water-fillable containers (3, 3a) supported or supportable by the or each free-standing frame, which water-fillable container(s) form a blast mitigation structure in use.

2. A blast mitigation device according to claim 1 further characterised in that the or each container (4, 4a) making up the inflatable generally rigid free-standing arched inflatable frame is made up of individual compartments of drop stitch material by which respectively opposite outer walls are prevented or inhibited from bulging outwards under pressure.

3. A blast mitigation device according to claim 1 further characterised in that the compartments (4) are made up of pressurisable material which bulges outwardly under pressure to assume e.g. a part cylindrical shape which, in combination are sufficiently rigid to support the weight of water from water-fillable containers.

4. A blast mitigation device according to claim 2 further characterised in that the water-fillable containers (4, 4a) are made of drop stitch material so as to increase the total rigidity of the entire structure in use.

5. A blast mitigation device according to any preceding claim further characterised in that one or more of the inflatable containers (4, 4a) making up the one or more free-standing frames are removable along with corresponding

containers for water (3, 3a) to allow for the placement of such a charge, whereafter they may be replaced prior to detonation of the charge.

6. A blast mitigation device according to any preceding claim further characterised in that the or each rigidisable arched frame (1) is made of independently inflatable semi-arched halves (1a, 1b) connectable at the apex (8) of the arch through the use of e.g. webbing, strapping, Velcro® fasteners or other such non rigid fastener means.

7. A blast mitigation device according to claim 6 further characterised in that each semi-arched half (1a, 1b) is formed by "pinching" one side of an otherwise parallel-walled layer of drop stitch material to form, when inflated, a semi-arch, the pinching occurring at regular intervals radially from a sidewall portion of the structure to the apex of the arch.

8. A blast mitigation device according to any preceding claim further characterised in that in order to prevent the "legs" of the arched frame (1) from splaying outwardly with the weight of water contained in the water filled containers (3, 3a) webs, strapping or other such means may be connected or connectable between such opposing legs.

9. A blast mitigation device according to any preceding claim further characterised in that a chicane is built into the or each free-standing device (1) whereby access to the inside of the structure is possible but is indirect.

10. A blast mitigation device according to claim 9 further characterised in that access to the inside of the structure is provided in the form of a stepped wall (7).

11. A blast mitigation device according to any preceding claim further characterised in that the device (1) also incorporates means by which it may be inflated remotely.

12. A blast mitigation device according to any preceding claim further characterised in including integrally formed air and water filling pipes which may be unreeled from the deflated components of the device such that the filling takes place at a distance from the suspect device/vehicle.

13. A blast mitigation device according to any preceding claim further characterised in including sensing apparatus may also be integrally incorporated to e.g. 'sniff' the interior of the device (1) when it is erected for the presence of explosives material.

14. A blast mitigation device according to any preceding claim further characterised in that a camera is provided integrally with the device (1) to visually monitor the inside thereof once it has been erected.

15. A blast mitigation device according to any preceding claim further characterised in that electric wires are included for these devices (1) which may be unreeled and attached to e.g. monitoring apparatus remote from the structure to thereby minimise the danger to personnel.

16. A blast mitigation structure comprising a plurality of blast mitigation devices according to any preceding claim connected or connectable to each other by means flange valves (19) whereby they may be pneumatically/hydraulically interconnected, at least one of said devices (1) including at least one fluid inlet pipe (16) and at least one pressure relief valve (17).

17. A blast mitigation device substantially as hereinbefore described with reference to Figure 1, or Figures 2 and 3, or Figures 4 to 6, or Figures 7 and 8.